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We sincerely hope that the work, having been now brought to its completion, in a style of uniform and first-rate excellence as to its illustrations, and of the highest utility as regards the plan and execution of the descriptive and scientific part, may ultimately be found not wholly to disappoint the just expectations of the author.

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it as consisting of a green gelatinous and granular body, invested by a highly elastic and contractile membrane, which is attached by variable points to a hard siliceous shell, which was afterwards stated by Mr. C. Varley to resist even the action of boiling nitric acid. The form of *Closterium* is spindle-shaped, or crescentic—the shell consisting of two horns, tapering off more or less to the extremities, and united at the central transverse line—constituting a perfectly symmetrical exterior. At the extremity of each horn is an opening in the shell, which, however, is closed within by the membranous envelope, wanting, however, in some specimens. Within the shell, and at the extremity of the green body, is a transparent chamber, containing a variable number of active molecules, measuring from the 20,000th to the 40,000th of an inch; these molecules, or transparent spheroids, occasionally escape from this chamber, and circulate vaguely and irregularly between the periphery of the gelatinous body and the shell; further, the parietes of this chamber have a contractile power. The author denied the existence of any papillæ or proboscides at this part, as well as the supposition of Ehrenberg that these moving molecules constitute the basis of such papillæ. He also denied the statement of the same distinguished observer, that if colouring matter was mixed with the water in which the *Closterium* resides, any motion was communicated to the particles of such colouring matter by the supposed papillæ, or by the active molecules within the terminal cells. A circulation of the fluids within the shell was observed, independent of the vague movements of the active molecules; this was regular, passing in two opposite currents, one along the side of the shell, and the other along the periphery of the gelatinous body. When the shell and body of the *Closterium* was broken by pressure, the green gelatinous matter was forcibly ejected by the contraction of the membranous envelope.

The action of iodine upon the specimens was very remarkable; 1st, it did not, as reported by Meyen, stain the green body violet or purple, but orange-brown; 2nd, it produced violent contraction of the investing membrane of the body, whereby the green matter was often forcibly expelled from the shell at the transverse division; it instantly annihilated the motion of the molecules in the terminal sacs, and the sacs themselves became so distended with fluid as to burst, and allow the molecules to escape.

The mode of reproduction was stated to take place, 1st, by spontaneous transverse division; 2nd, by ova; 3rd, by interbudding, or the conjugation of two *Closteria*.

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1st. That while *Closterium* has a circulation of molecules greatly resembling that of plants, it has also a definite organ, unknown in the vegetable world, in which the active molecules appear to enjoy an independent motion, and the parietes of which appear capable of contracting upon its contents.

2nd. That the green gelatinous body is contained in a membranous envelope, which, while it is elastic, contracts also upon the action of certain re-agents, whose effects cannot be considered purely chemical.

3rd. The comparison of the supposed ova with cytoblasts and cells of plants, precludes the possibility of our considering them as the latter, while the appearance of a vitelline nucleus, transparent but molecular fluid, a chorion or shell, determines them as animal ova. It was shown to be impossible that these eggs had been deposited in the empty shell by other infusoria, or that they were the produce of some entozoon.

4th. That while it was impossible to determine whether the vague motions of *Closterium* were voluntary or not, yet the idea the author had formed of a suctorial apparatus, forbad his classing them with plants.

Lastly, in no instance had the action of iodine produced its ordinary effects upon starch or vegetable matter, by colouring it violet or blue, although Meyen asserts it did in his trials.

The author therefore concluded that *Closterium* must still be retained as an Infusory Animal, although it is more than doubtful whether it ought to rank with the polygastric families.

ZOOLOGICAL SOCIETY.

November 26, 1839.—William H. Lloyd, Esq., in the Chair.

An extensive collection of shells, sponges, &c., presented by J. B. Harvey, Esq., Corr. Memb. Zool. Soc., was exhibited. The specimens contained in this collection are from South Australia, and were principally collected in Kangaroo Island.

Prof. Rymer Jones called the attention of the Meeting to certain specimens contained in this collection, and to the sponges in particular, and, having made some observations upon their structure and mode of reproduction, he entered into the question relating to their animal or vegetable nature.

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